REMARKS

Claims 1, 11, 21, and 31 - 33 have been amended. No new matter has been introduced with these amendments, which are supported in the specification as originally filed. Claims 1 - 33 remain in the application.

I. Rejection Under 35 U.S.C. § 112, first paragraph

Paragraph 4 of the Office Action dated January 20, 2004 (hereinafter, "the Office Action") states that Claims 3, 13, and 23 are rejected under 35 U.S.C. §112, first paragraph, as having insufficient antecedent basis for the terms "said connection" and "said number" in the third and fourth limitations. This rejection is respectfully traversed.

Applicants note that the terms of interest are found in the fourth and fifth limitations, not the third and fourth limitations. The reference to "said connection", which is found on line 10 of Claim 3, finds antecedent basis in the text on line 6, which states "wherein each of said client requests is for a connection to a host" (emphasis added). Lines 7 - 8 specify retrieving "a selected one" of these client requests, and the text on line 10 refers to the connection that "is requested in said selected client request".

The reference to "said number", which is found on line 10 of Claim 3, finds antecedent basis in the text on line 9, which states "determining a number of connections" (emphasis added). The reference to "said number" found on lines 12 - 13 of Claim 3 also finds antecedent basis in the text on line 9.

Accordingly, Applicants respectfully submit that antecedent basis is proper in Claims 3, 13, and 23, and the Examiner is respectfully requested to withdraw the §112 rejection.

II. Rejection Under 35 U.S.C. § 103(a)

Paragraph 6 of the Office Action states that Claims 1 - 2, 11 - 12, 21 - 22, and 31 - 33 are rejected under 35 U.S.C. §103(a) as being unpatentable over U. S. Patent 5,761,507 to Govett in view of U. S. Patent 6,351,755 to Najork et al. Paragraph 11 of the Office Action states that Claims 3 - 10, 13 - 20, and 23 - 30 are rejected under 35 U.S.C. §103(a) as being unpatentable over Govett and Najork and further in view of U. S. Patent 6,182,109 to Sharma et al. These rejections are respectfully traversed.

Applicants' have amended their independent Claims 1, 11, and 21 herein to more clearly specify that the client requests are retrieved from the queues that comprise the wide queue. See p. 16, lines 5 - 9, which discuss one way (i.e., using a round-robin approach) in which the queue may be selected from among the plurality of queues.

Note that the analysis in paragraph 7 of the Office Action refers to the Sharma reference; the cited element, however, is found in Najork (i.e., the "Frontier" queue of Fig. 9).

Applicants' independent Claims 1, 11, and 21 are not taught by Govett, Najork, or a combination thereof (assuming, *arguendo*, that such combination could be made and that one of skill in the art would be motivated to attempt the combination). In particular, Govett uses a single

queue for queueing task requests. Use of this single queue, as opposed to a wide queue as taught by Applicants, is admitted in Paragraph 7 of the Office Action.

Najork teaches that the Frontier queue shown in Fig. 9 is used for his third preferred embodiment. See col. 12, lines 23 - 24. Najork further teaches that this Frontier queue or data structure **290** includes "a front-end queue **292**, which is implemented as a set of n priority level FIFO subqueues **294**, and m FIFO "underlying" queues (also called the back-end queues) **296**". Queued elements, which Najork teaches are URLs (see, for example, col. 12, lines 52 - 55) are removed from the front-end queue and placed into the back-end queues by mux **302** and demux **300** elements. See col. 12, lines 49 - 51. This is distinct from Applicants' independent Claims 1, 11, and 21, where connection requests are queued into queues of a wide queue, and are retrieved from those queues by worker threads.

An additional distinction between Applicants' Claims 1, 11, and 21 is that these claims specify queueing of "incoming client requests for connections" (see lines 5 - 6 of Claim 1). Govett is qucueing task requests (see, for example, Blocks 450 and 460 of Fig. 4) and Najork is queueing URLs, also referred to as "addresses of web pages to be downloaded" (see, for example, col.5, lines 43 - 48).

With reference to Claim 2, Paragraph 8 of the Office Action states that Govett teaches placing client requests on a selected queue from the plurality of queues using a FIFO strategy, where the selected one is selected using a round-robin approach. Applicants respectfully disagree.

Govett cannot teach using a round-robin approach for selecting among queues, since Govett teaches use of a single queue. As is known in the art, "round robin" refers to selecting each element from some set of elements in turn; in this aspect of the present invention, the set of elements is a set of queues. Thus, using a round-robin approach for adding connection requests to queues means that a first connection request is queued to a first queue, a second connection request is queued to a second queue, ... and an Nth connection request is queued to an Nth queue; the next connection request after the Nth (i.e. request N+1) is then queued to the first queue. Obviously, when there is only one queue (as taught by Govett), round robin is not applicable for selecting a queue.

Applicants have amended Claims 31 - 33 herein to more clearly specify the returning of a client request to a queue. See p. 16, lines 14 - 16 and p. 20, lines 14 - 17 of Applicants' specification, where this is discussed. Paragraph 9 of the Office Action states that Govett teaches returning requests to a wide queue using a round-robin approach. As just discussed, this is inaccurate, because Govett has only a single queue and therefore has no need to select a queue using a round-robin approach.

Thus, it can be seen that Applicants' independent Claims 1, 11, and 21 and dependent Claims 2, 12, 22, and 31 - 33 are patentable over the cited references. The Examiner is therefore respectfully requested to withdraw the §102 rejection.

With reference to independent Claim 3, Paragraph 12 of the Office Action admits that

neither Govett nor Najork teaches "determining a number of connections ...". Sharma is then cited as teaching this limitation. Applicants respectfully disagree. The language of Applicants' Claims 3, 13, and 23 specifies that the number of interest is the number of connections to a particular host (i.e., "to said host to which said connection is requested") which are currently assigned to worker threads. See lines 9 - 11 of Claim 3. This is discussed in Applicants' specification on p. 18, line 13 - p. 19, line 15 *et seq*, where motivation for limiting the number of connections to a host is discussed in some detail.

Sharma, by contrast, teaches enforcing limits on the number of threads assigned to a particular client. See, for example, the following citations, where this is established:

- lines 15 - 20 of the Abstract (referring to the number of execution units allotted for the client task);
- col. 22, lines 52 - 54 (discussing whether the client machine or client task has exceeded its allowed number of threads);
- col. 23, lines 36 - 37 (stating that "MaxReq" is a limit on concurrent requests of a given client);
- Fig. 8B, where Block 603 checks the number of threads allocated to this client (i.e., by comparing that value to the variable "MaxReq") and its corresponding text in col. 24, lines 40 - 44
- Block 605 of Fig. 8B, where the client's request is rejected if this client has already exceeded its allocated number of threads, and corresponding text in col. 24, lines 47 - 50

- Block 609 of Fig. 8B, noting that what is being counted in the number of client threads (i.e., currently-allocated threads for this client)

Enforcing a limit on the number of threads servicing a particular client, as taught by Sharma, is patentably distinct from enforcing a limit on the number of connections to a particular host, which is the subject matter of Applicants' independent Claims 3, 13, and 23 (where this "enforcing" is specified in the final element of Claims 3, 13, and 23 as processing the client's request if the number is less than the limit, and not processing the client's request otherwise). Note also that the requests specified in Applicants' Claims 3, 13, and 23 are from clients, requesting connections to the hosts; thus, Applicants' claims make a clear distinction between clients and hosts and thus Applicants' claim limitations are patentably distinct from Sharma's client-oriented limits.

Applicants also note that the cited text in col. 24, lines 3 - 15 is discussing system-wide limits on the number of active threads (i.e., ensuring that this number remains in the range MinThreads to MaxThreads). This is unrelated to enforcing a limit on the number of connections to a particular host, which (as stated above) is the subject matter of Applicants' independent Claims 3, 13, and 23.

Accordingly, it has been demonstrated that Sharma does not teach the limitation specified in lines 9 - 11 of Applicants' independent Claims 3, 13, and 23 (i.e., the fourth limitation), and Paragraph 12 of the Office Action admits that neither Govett nor Najork teaches this limitation.

(While the Office Action states that Govett and Najork do not "explicitly" teach this limitation, Applicants respectfully submit that there is also no indirect teaching, suggestion, or implication of this limitation in Govett or Najork.) These independent claims, as well as their dependent Claims 4 - 10, 14 - 20, and 24 - 30, are therefore deemed patentable. Accordingly, the Examiner is respectfully requested to withdraw the §103 rejection thereof.

III. Conclusion

Applicants respectfully request reconsideration of the pending rejected claims, withdrawal of all presently outstanding rejections, and allowance of all claims at an early date.

Respectfully submitted,

Marcia L. Doubet

Marcia L. Doubet
Attorney for Applicants
Reg. No. 40,999

Customer Number for Correspondence: 25260
Phone: 407-343-7586
Fax: 407-343-7587